OCCUPATIONAL INJURY AND DISEASE IN ALBERTA

Oilfield Trucking Services 1994 to 1998

Upstream Oil and Gas

Subsector #8

Alberta
HUMAN RESOURCES AND EMPLOYMENT

July 1999

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1. Sub-Sector Description

Sub-Sector # 8: Oilfield Trucking Services

Oilfield Trucking Services (Industry # 50720)

This industry describes businesses that operate for-hire trucking equipment for the purpose or ability to transport oversized or overweight loads, off-highway loads, in the oilfield. Services in this industry include for-hire specialized trucking services to and from oil and gas lease sites, not described under Specialized Hauling (industry 50701), or bulk or tank truck hauling (industry 50714)

Businesses may own or lease trucks, vehicles and equipment and shipping/receiving facilities or terminals. Business may opt to subcontract lease operators to provide trucking/delivery services, while only conducting scheduling, dispatching, and billing services in-house.

As most oil and gas lease sites are located in remote areas, vehicles are typically modified to operate in an off-road environment. Vehicles are usually equipped with positive air shut-offs. These attachments prevent engines from running once turned off, particularly in areas of highly combustible/explosive gases. The industry includes rig moving and operating pilot cars, and businesses in this industry may provide some highway hauling services using standard flatdecks and trucks in the course of a move.

Business may utilize specialized trucking equipment with tire chains, skid plates, heavy-duty bumpers, winches, cherry pickers and may employ drivers, labourers (swampers), warehouse/yard staff, forklift drivers, mechanics, dispatch/traffic, sales/estimators, office/administrative staff.

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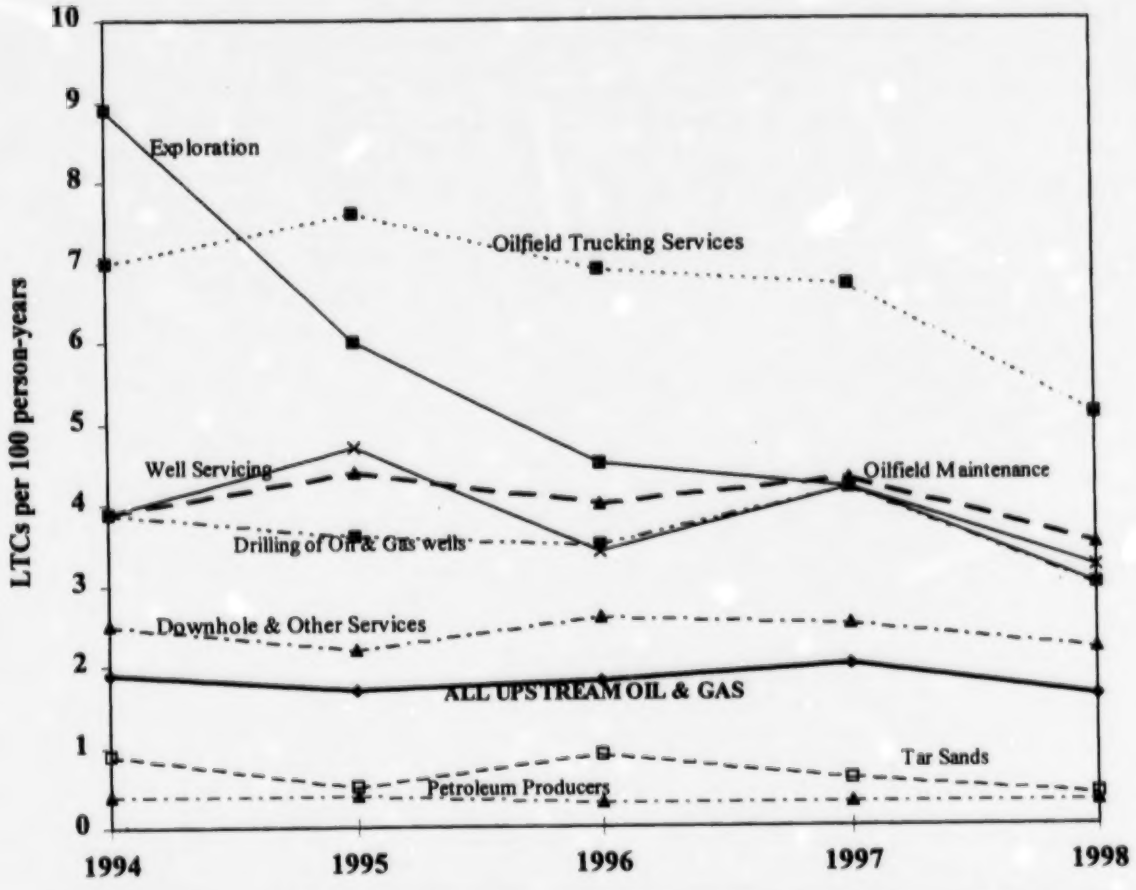
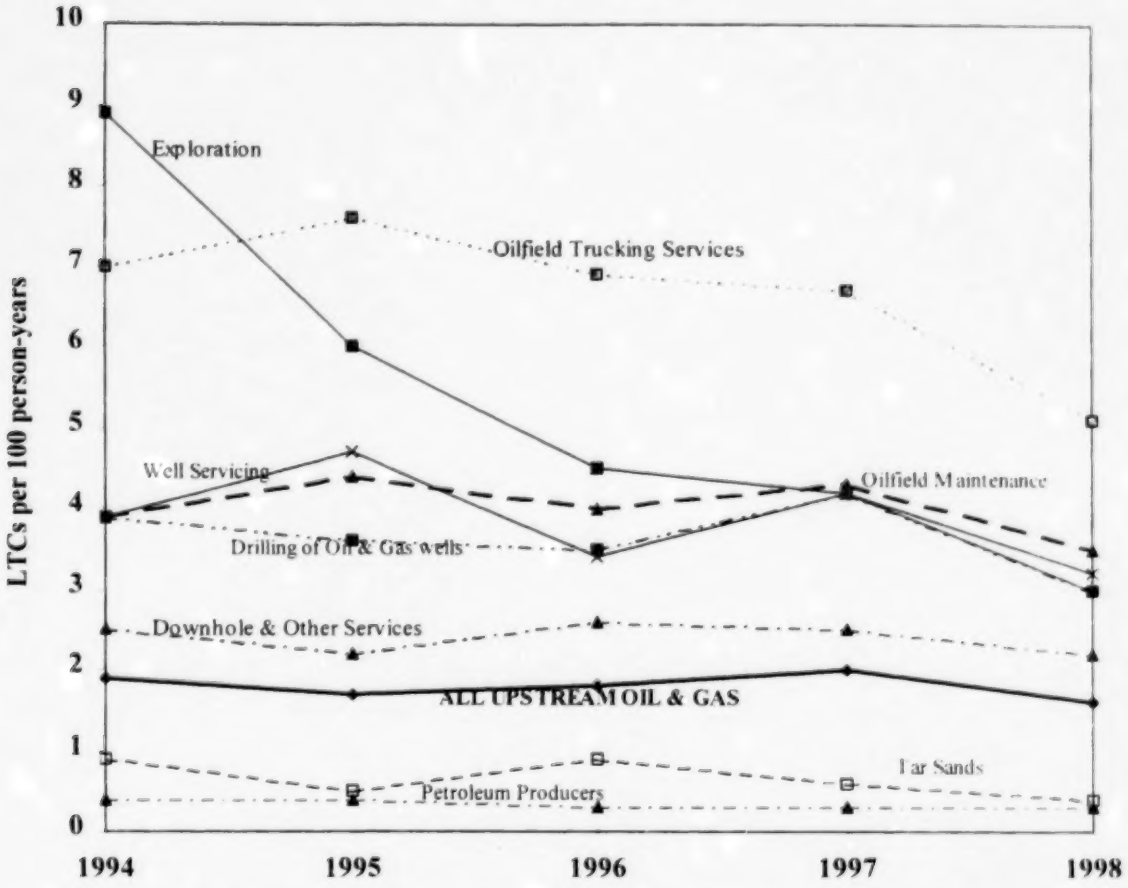
2.

Lost-Time Claim Rates
All Upstream Oil & Gas Subsectors
Alberta 1994-1998



Lost-Time Claim Rate	1994	1995	1996	1997	1998
Exploration	8.9	6.0	4.5	4.2	3.0
Oilfield Maintenance and Construction	3.9	4.4	4.0	4.3	3.5
Well Services with Service Rigs	3.9	4.7	3.4	4.2	3.2
Drilling of Oil and Gas	3.9	3.6	3.5	4.2	3.0
Downhole & Other Oilfield Services	2.5	2.2	2.6	2.5	2.2
Tar Sands	0.9	0.5	0.9	0.6	0.4
Petroleum Producers	0.4	0.4	0.3	0.3	0.3
Oilfield Trucking Services	7.0	7.6	6.9	6.7	5.1

2. Lost-Time Claim Rates
All Upstream Oil & Gas Subsectors
Alberta 1994-1998



Lost-Time Claim Rate	1994	1995	1996	1997	1998
All Upstream Oil and Gas	1.9	1.7	1.8	2.0	1.6
Exploration	8.9	6.0	4.5	4.2	3.0
Oilfield Maintenance and Construction	3.9	4.4	4.0	4.3	3.5
Well Services with Service Rigs	3.9	4.7	3.4	4.2	3.2
Drilling of Oil and Gas	3.9	3.6	3.5	4.2	3.0
Downhole & Other Oilfield Services	2.5	2.2	2.6	2.5	2.2
Tar Sands	0.9	0.5	0.9	0.6	0.4
Petroleum Producers	0.4	0.4	0.3	0.3	0.3
Oilfield Trucking Services	7.0	7.6	6.9	6.7	5.1

3. LTC Rates & Duration Rates

Trucking Services, Oilfield

Year	# of Accounts	Cost	Person Years	Days Lost	Duration Rate	LTCs	LTC Rate
94	374	$507,705	1,930	5,618	291	135	7.0
95	436	$803,365	1,838	7,842	427	139	7.6
96	482	$927,398	2,255	7,612	337	155	6.9
97	587	$1,371,117	3,348	9,333	279	225	6.7
98	653	$1,172,951	3,310	7,767	235	168	5.1

3.1 LTC Rate by Size of Employer:1998

Size of Employer	# of Accounts	LTCs	Person - Years	LTC Rate
A: 0< PYs <=1	426	4	189	2.1
B: 1 < PYs < 5	111	10	262	3.8
C: 5 <= PYs < 10	26	13	184	7.1
D: 10 <= PYs < 20	23	14	331	4.2
E: 20 <= PYs < 40	23	44	666	6.6
F: 40 <= PYs < 100	6	26	435	6.0
G: PYs >=100	7	56	1,243	4.5
H: Invalid	31	1	0	N/A
Total	653	168	3,310	5.1

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4. Analysis of The Lost-Time Claims

4.1 Nature of Injury

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
SPRAIN, STRAIN	50	51	51	87	60	299	36.4
FRACTURE & DISLOCATION							
FRACTURE	30	28	30	47	29	164	20.0
OTHER NATURE	1	3	4	5	4	17	2.1
SUBTOTAL	31	31	34	52	33	181	22.0
BRUISE, CONTUSION, CRUSHING	24	25	34	39	29	151	18.4
OTHER INJURY	5	3	17	15	11	51	6.2
CUT, LACERATION, PUNCTURE	6	11	8	13	11	49	6.0
ALL OTHER NATURES, UNS	19	18	11	19	24	91	11.1
Total	135	139	155	225	168	822	100.0

4.2 Part of Body Affected

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
BACK							
LUMBAR (LOWER BACK)	22	18	5	11	6	62	7.5
OTHER PART	14	9	28	40	32	123	15.0
SUBTOTAL	36	27	33	51	38	185	22.5
LEG(S)							
KNEE	8	10	13	22	15	68	8.3
OTHER PART	9	8	12	20	11	60	7.3
SUBTOTAL	17	18	25	42	26	128	15.6
ANKLE(S) & FOOT(FEET)-NOT TOES							
ANKLE(S)	11	10	17	20	12	70	8.5
FOOT(FEET)-NOT ANKLES OR TOES	10	5	10	15	8	48	5.8
SUBTOTAL	21	15	27	35	20	118	14.4
OTHER TRUNK	11	19	20	21	18	89	10.8
FINGER(S)	11	23	15	22	15	86	10.5
WRIST(S) & HAND(S)-NOT FINGERS	17	8	15	11	13	64	7.8
OTHER HEAD, NECK	1	8	6	10	12	37	4.5
ARM(S)(ABOVE WRIST)	5	6	4	8	9	32	3.9
MULTIPLE MAJOR BODY PARTS	6	6	4	9	7	32	3.9
EYE(S)-OPTIC NERVE, VISION	5	4	1	5	3	18	2.2
ALL OTHER PARTS, UNS	5	5	5	11	7	33	4.0
Total	135	139	155	225	168	822	100.0

4.3 Source of Injury

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
SOURCE-UNS	28	30	42	37	30	167	20.3
METAL ITEMS-NEC							
PIPE AND FITTINGS	12	17	21	30	15	95	11.6
OTHER SOURCE	9	10	3	11	6	39	4.7
SUBTOTAL	21	27	24	41	21	134	16.3
WORKING SURFACES							
GROUND (OUTDOORS)	15	14	6	22	13	70	8.5
OTHER SOURCE	8	5	12	13	12	50	6.1
SUBTOTAL	23	19	18	35	25	120	14.6
VEHICLES							
HIGHWAY VEHICLES (POWERED)	11	12	13	30	27	93	11.3
OTHER SOURCE	6	10	2	2	4	24	2.9
SUBTOTAL	17	22	15	32	31	117	14.2
BODILY MOTION	15	12	17	26	11	81	9.9
HANDTOOLS-UNPOWERED	6	4	12	10	7	39	4.7
BOXES, CONTAINERS	2	5	3	5	2	17	2.1
WOOD ITEMS-NEC	5	2	2	4	4	17	2.1
ALL OTHER SOURCES	18	18	22	35	37	130	15.8
Total	135	139	155	225	168	822	100.0

4.4 Type of Event

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
STRUCK BY	22	24	25	43	31	145	17.6
CAUGHT IN, UNDER OR BETWEEN	15	22	25	29	23	114	13.9
FALL FROM ELEVATION							
FALL FROM VEHICLES	14	11	9	16	18	68	8.3
OTHER TYPE	9	8	6	7	8	38	4.6
SUBTOTAL	23	19	15	23	26	106	12.9
OVEREXERTION							
LIFTING OBJECTS	8	5	8	12	11	44	5.4
OTHER TYPE	10	9	8	17	14	58	7.1
SUBTOTAL	18	14	16	29	25	102	12.4
BODILY REACTION							
REACTION FROM INVOLUNTARY MOTION	9	9	10	11	4	43	5.2
OTHER TYPE	6	3	7	14	4	34	4.1
SUBTOTAL	15	12	17	25	8	77	9.4
FALL ON SAME LEVEL	8	9	9	20	12	58	7.1
VEHICLE INCIDENTS	4	12	6	11	15	48	5.8
STRUCK AGAINST	8	5	6	8	7	34	4.1
ALL OTHER TYPES, UNS	22	22	36	37	21	138	16.8
Total	135	139	155	225	168	822	100.0

4.5 Duration of Disability

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
01 - 05 DAYS LOST	27	22	28	53	40	170	20.7
06 - 10 DAYS LOST	20	18	15	25	27	105	12.8
11 - 15 DAYS LOST	15	11	14	18	12	70	8.5
16 - 20 DAYS LOST	6	10	8	7	8	39	4.7
21 - 30 DAYS LOST	11	18	13	17	9	68	8.3
31 - 40 DAYS LOST	12	7	19	22	8	68	8.3
41 - 50 DAYS LOST	10	9	9	16	8	52	6.3
51 OR MORE DAYS LOST	33	42	45	56	53	229	27.9
DAYS LOST-UNSPECIFIED, 0	1	2	4	11	3	21	2.6
Total	135	139	155	225	168	822	100.0

4.5 Duration of Disability

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
01 - 05 DAYS LOST	27	22	28	53	40	170	20.7
06 - 10 DAYS LOST	20	18	15	25	27	105	12.8
11 - 15 DAYS LOST	15	11	14	18	12	70	8.5
16 - 20 DAYS LOST	6	10	8	7	8	39	4.7
21 - 30 DAYS LOST	11	18	13	17	9	68	8.3
31 - 40 DAYS LOST	12	7	19	22	8	68	8.3
41 - 50 DAYS LOST	10	9	9	16	8	52	6.3
51 OR MORE DAYS LOST	33	42	45	56	53	229	27.9
DAYS LOST-UNSPECIFIED, 0	1	2	4	11	3	21	2.6
Total	135	139	155	225	168	822	100.0

5. Characteristics of The Injured Worker

5.1 Occupation of Injured Worker

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
TRANSPORT OPERATORS							
TRUCK DRIVERS	50	62	58	95	69	334	40.6
OTHER OCCUPATION	1	2	.	.	1	4	0.5
SUBTOTAL	51	64	58	95	70	338	41.1
MATERIALS HANDLING-NEC							
FREIGHT HANDLERS, STEVEDORES	60	42	57	66	47	272	33.1
OTHER OCCUPATION	1	5	2	9	16	33	4.0
SUBTOTAL	61	47	59	75	63	305	37.1
FABRICATING, REPAIR	7	5	10	12	6	40	4.9
ALL OTHER OCCUPATIONS, UNS	16	23	28	43	29	139	16.9
Total	135	139	155	225	168	822	100.0

5.2 Age of Injured Worker

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
15-19 YEARS	9	7	11	22	17	66	8.0
20-24 YEARS	24	26	33	35	37	155	18.9
25-34 YEARS	60	60	55	64	50	289	35.2
35-44 YEARS	27	25	33	69	44	198	24.1
45-54 YEARS	10	16	15	25	13	79	9.6
55-64 YEARS	3	5	8	9	7	32	3.9
65 YRS AND OVER	1	.	.	1	.	2	0.2
AGE-UNSPECIFIED	1	.	.	.	.	1	0.1
Total	135	139	155	225	168	822	100.0

5.3 Length of Time Employed

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
A. LESS THAN 1 MONTH	30	17	16	32	11	106	12.9
B. 1 MONTH TO < 6 MONTHS	51	30	38	61	50	230	28.0
C. 6 MONTHS TO < 1 YEAR	19	27	20	26	25	117	14.2
D. 1 YEAR OR MORE	24	51	46	53	37	211	25.7
E. TIME-UNSPECIFIED	11	14	35	53	45	158	19.2
Total	135	139	155	225	168	822	100.0

5.4 Gender of Injured Worker

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
MALE	134	137	148	216	163	798	97.1
FEMALE	1	.	5	5	2	13	1.6
GENDER-UNSPECIFIED	.	2	2	4	3	11	1.3
Total	135	139	155	225	168	822	100.0

6. Number of Employers that Received/Renewed a CoR in 1998

	Certified Employers	Cert. & Uncert. (# of Accounts)	% Certified
Sub-Sector # 8 Industry 50720-Oilfield Trucking Services	16	653	2.5%
UPSTREAM OIL & GAS SECTOR	**119**	**7,205**	**1.7%**

7. Cost of Claims, Payroll and Premiums

	Occurrence Year				
	1994	**1995**	**1996**	**1997**	**1998**
Transaction Year					
1994	$446,446				
1995	$298,635	$704,926			
1996	$444,263	$531,392	$847,058		
1997	$48,516	$249,521	$435,010	$1,073,566	
1998	$95,644	$406,133	$335,127	$731,114	$984,160
Total Cost	$1,333,504	$1,891,972	$1,617,195	$1,804,681	$984,160
Total Payroll	$64,460,099	$68,148,168	$77,186,476	$101,683,708	$106,071,245
Total Premiums	$7,480,353	$5,872,116	$4,926,920	$5,556,352	$4,490,476

The above costs of claims, payroll and premiums are for the five year period 1994 through 1998. The data is as at July, 1999.

The claim cost amount reflect only paid costs on claims which have occurred in the five year period. These paid cost are tracked by year of occurrence and year that the cost were transacted.

The payroll have been totaled for each year. The premiums is the total of employer's premiums paid for each year.

8. Occupational Fatalities

An occupational fatality is the death of a worker which results from a work-related incident or exposure. Alberta Labour classifies occupational fatalities into three general types: motor vehicle incident, workplace incident and occupational diseases. Each is described in detail below.

Motor Vehicle Incident
Motor vehicle incident typically involve highway vehicles operating on public roads in which the fatally injured worker was either the driver or a passenger. This category also includes fatalities involving air plane crashes, train crashes, helicopter crashes. etc.

Workplace Incident
Fatal workplace incidents consists of cases in which the worker dies at a work site, or as a result of injuries sustained at a work site. It is this type of fatality that Alberta Labour may be responsible for investigating.

Occupational Diseases
Occupational disease fatalities consist mostly of recognized occupational disease, that is, disease known to be primarily or exclusively work-related (e.g. asbestosis, black lung disease). Occupational diseases are frequently diagnosed many years after the initial or crucial exposure to the toxic substance, and in such cases it is very difficult to determine when the fatal exposure occurred. Thus, the occupational disease category, should not be interpreted to reflect present work site hazardous conditions or exposures.

Each year the Workers' Compensation Board (WCB) accepts some occupational fatality claims for compensation. Claims accepted in a particular year does not imply the fatalities occurred in that year.

Description of Oilfield Trucking Services Fatalities
Accepted By the WCB
Alberta, 1992-1998

Year	Occupational Disease		Motor Vehicle incident		Workplace Incident		Total	
	N	%	N	%	N	%	N	%
1992	0	0	0	0.0	0	0	0	100
1993	0	0	0	0	0	0	0	100
1994	0	0	0	0.0	0	0	0	100
1995	0	0	0	0.0	0	0	0	100
1996	0	0	1	100.0	0	0	1	100
1997	0	0	2	100.0	0	0	2	100
1998	0	0	0	0.0	0	0	0	100
Total	0	0.0	0	100.0	0	0.0	3	100

There were no Oilfield Trucking Services Fatalities Investigated by OHS for the period 1993-1998

Appendix A: Terms, Definitions, and Formulas

Lost-Time Claim

A lost-time claim (LTC) is a claim for an occupational injury or disease which disables the worker beyond the day of injury. Included are claims for which wages compensation are paid, permanent disability claims, fatalities, and cases in which the injured worker is assigned light duties or other modified work.

Person-Years

Person-year estimates are calculated from wage and payroll data provided by account holders to the WCB. Alberta Labour uses these data to estimate. An average industry wage, and uses the average industry wage and employer payroll data to estimate person-years foe each employer and each industry. One person-year ie equivalent to one full-time worker working for one year, and can be assumed to equal 2,000 hours worked.

LTC Rate

The lost-time claim (LTC) rate is calculated by dividing the number of lost-time claims by the person-year estimate, and multiplying the result by 100. The LTC rate represent the probability or risk of disabling injury or disease to a worker during a period of one year's work. Comparisons of LTC rates between industries, or between years, can be used to indicate increases, decreases, or differences in this risk.

$$\text{LTC Rate} = \frac{\text{Number of LTCs X 100}}{\text{Estimated Person-years}}$$

Duration (Days Lost)

The duration of disability is the number of days following the injury or disease for which the worker was disabled, and unable to perform normal work duties. This information is obtained for this report from data on compensation days paid on each claim from WCB. Alberta Labour obtains these data on March 31 of the year following the claim year, and does not update the information, even though many injured workers continue to be disabled beyond this date. As a result, the duration information reported here underestimates the true impact of lost-time injury and disease.

Duration Rate

The duration rate is calculated by dividing the number of work days lost (disability days) by the person-year estimate, and multiplying by 100. The result is expressed as "days lost per 100 person-years worked", and indicates, in part, the economic impact of occupational injury and disease. Duration rates are not recommended as reliable indicators of full economic cost. In addition, readers are warned that duration rates are highly unstable when based on only a few lost-time claims; it is recommended that the duration rate not be calculated based upon fewer than 30 lost-time claims.

$$\text{Duration Rate} = \frac{\text{Disability Days X 100}}{\text{Estimated Person-Years}}$$

WCB Accepted Fatality

An occupational fatality is the death of a worker which result from a work-related incident or exposure and which has been accepted by the WCB for compensation. A fatality is counted in the year it is accepted.

NEC

Means "Not Elsewhere Classified"

UNS

Means "Unspecified"

Appendix B: Upstream Oil and Gas 1998 Industry Codes

Sub-Sector 1: Exploration
Industries: 09200~Seismic Geophysical/Mineral Exploration
09201~Shot Hole Drilling

Sub-Sector 2: Oilfield Maintenance and Construction
Industries: 06304~Oilfield Construction and/or Maintenance

Sub-Sector 3: Well Servicing With Service Rigs
Industries: 09903~Well servicing with Service Rigs including Power Swivels

Sub-Sector 4: Drilling of Oil and gas Wells
Industries: 09600~Drilling of Oil & Gas Wells

Sub-Sector 5: Downhole & Other Oilfield Services
Industries 06305~Field Production Operators
06306~Vacuum Removal of Waste
09900~Mud Logging
09902~Pressure Cleaning Services
09904~Rathole Drilling and Rig Anchoring
09911~Oilfield Downhole Services
09915~Well Casing Services
09921~Servicing Christmas Trees On Oil Wells
09927~Liquid Waste Treatment & Disposal

Sub-Sector 6: Tar Sands
Industries: 06600~Mining & Processing of Bituminous Sand
06601~Research/Development, Oil Sands and Heavy Oil Recovery

Sub-Sector 7: Oil & Gas Exploration/Development
Industries: 06300~Oil and Gas Exploration & Development-Upstream Operations

Sub-Sector 8: Oilfield Trucking Services
Industries: 50720~Oilfield Trucking Services